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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BOARD OF PATENT APPEALS AND INTERFERENCES

In Re Application of:

Martin H. Graham

Serial No.: 09/221,291

Filed: December 23, 1998

For: Biphase Multiple Level Communications

Art Unit: 2631

Examiner: Burd, Kevin Michael

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RESPONSE TO REQUEST FOR REHEARING

Dear Sir:

This is a response to Request for Rehearing (hereinafter Request).

This Request Should be Denied

The Board on September 14, 2006 determined that the rejection under 35 USC §103(a) in this application was improper and reversed the rejections of claims 19-35.

The Request states applicant made an improper argument. Specifically:

The pulse position and coding of Vanderpool has been placed into the system of Gord, and not the other way around. Applicant has argued a rejection that was never made.

The Examiner's Answer already made this argument. Applicant argued that neither reference supported the combination and the Board agreed. Moreover, if an improper

Fig. 2b of Graham

In the figure there are a series of bi-phasic pulses separated by time. Importantly, the application teaches using alternating first and second bi-phasic pulses. The first bi-phasic pulses are defined as having a first portion which is positive, and then a second portion which is negative. The second bi-phasic pulses are defined as pulses having a first portion which is negative, and then a second portion which is positive. In short, the pulses alternate “polarity.” As can be seen in Figure 2b, the bi-phasic pulses alternate, that is, there is a sequence of: a first bi-phasic pulse, a second bi-phasic pulse, a first bi-phasic pulse, a second bi-phasic pulse, etc. These pulses themselves do not indicate data. Rather, the time between the pulses is the indication of the data. Four different times (T1, T2, T3, T4) are shown in Figure 2. Each of these times represents a plurality of bits. For instance, T1 can equal 00, T2=01, T3=10, and T4=11. Thus, the duration or dead time between the bi-phasic pulses determines what data that is transmitted.

There are advantages to alternating the “polarity” of the bi-phasic pulses, which is the gist of the present invention. These alternating pulses, as described in the application, reduce interference between consecutive bi-phasic pulses so that the signal received can be more easily recovered. This is the sum and substance of claims 19, 20, 21, 24 and 25.

The dependent claims 22 and 23 add the concept that the bi-phasic pulses, themselves, can also be used to transmit data by varying their amplitude (claim 22) or by varying their pulse width (claim 23).

Vanderpool transmits data by the duration of dead time between the pulse frames 204 and 205, as shown below in Figure 4.

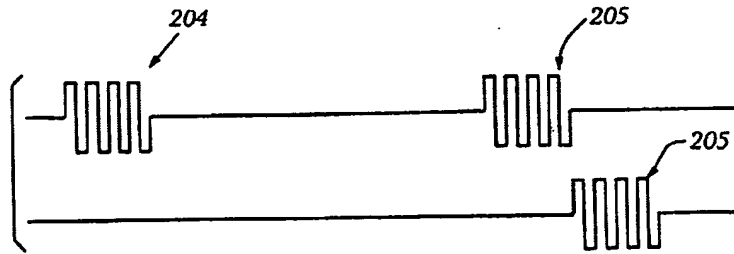


Fig.4 OF VANDERPOOL, ET AL.

Gord illustrates first bi-phasic pulses and second bi-phasic pulses for input data as those terms are defined by the claims. However, the pulses do not alternate. The first pulses are used to transmit a binary 1 and the second pulses a binary 0. It is the pulses themselves which represent the data, not the time between them. There is no teaching in Gord of an advantage to alternating the pulses.

It is the Examiner's contention that if the pulse position encoding of Vanderpool is placed into Gord, the present claims are realized and that there is a motivation for this combination.

The Examiner contends that applicant has not addressed the motivation identified by the Examiner in the last office action. The Request states:

each possible choice of delay time may represent a separate set of multiple data bits. (Col. 2, lines 3-5, Vanderpool)²

From this the rejection concludes "Therefore more information can be transmitted than before during the same transmission period."

Applicant does not see any motivation in this rejection to place Vanderpool in Gord.

For sake of argument, assume Vanderpool is placed in Gord. Where is the teaching to alternate the pulses? Gord changes the polarity of the pulses only to transmit

² The full sentence in Vanderpool reads: In a preferred embodiment, each possible choice, for the data pulse, of delay time and transmission code may represent a separate set of multiple data bits.

data of one binary state followed by another. There is no hint of an advantage in doing this from Gord (or Vanderpool).

If the rejection is that with the combination of Vanderpool in Gord, the sequence of the claim will randomly occur, this is not a valid 103 rejection. This appears (to the extent it is understood) to be an anticipation rejection after a combination. Applicant is not aware of any such rejection. Moreover, it ignores the fact that such occurrences of a binary 1 and 0 in Gord when combined with Vanderpool are an unappreciated result, which lacks the teaching of the present application.

In summary, these are two references that should not be combined, there is no justification for the combination, and the Board should affirm its prior decision.

It is respectfully submitted that the rejection should be found to be improper.

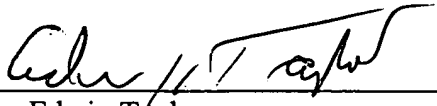
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If there are any further charges not accounted for herein, please charge them to our deposit account No. 02-2666.

Respectfully submitted,

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Dated: 2/12/07

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